COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

PASSENGER DOOR SNUBBER ASSEMBLY

PART NUMBER 141A6105–1, –11, –12, –2, –3, –6, –7

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COMPONENT MAINTENANCE MANUAL

Revision No. 13
Jul 01/2009

To: All holders of PASSENGER DOOR SNUBBER ASSEMBLY 52-11-09.

Attached is the current revision to this COMPONENT MAINTENANCE MANUAL

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A = Added, R = Revised, D = Deleted, O = Overflow

TABLE OF CONTENTS

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COMPONENT MAINTENANCE MANUAL

TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL

All revisions to this manual will be accompanied by transmittal sheet bearing the revision number. Enter the revision number in numerical order, together with the revision date, the date filed and the initials of the person filing.

Revision		Filed		Revision		Filed	
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Revision		Filed		Revision		Filed	
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Temporary Revision		Inserted		Removed	
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Temporary Revision		Inserted		Removed	
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INTRODUCTION

1. General

A. The instructions in this manual supply the data necessary to do the maintenance functions together with the test, fault isolation, repair, and replacement of the defective parts.

B. This manual is divided into different parts:

(1) Title Page

(2) Transmittal Letter

(3) Highlights

(4) List of Effective Pages

(5) Table of Contents

(6) Temporary Revision & Service Bulletin Record

(7) Record of Revisions

(8) Record of Temporary Revisions

(9) Introduction

(10) Procedures & IPL Sections

C. Components that can be repaired have a different repair number for each specified repair. To find the repair number location of a component, look in the Repair-General procedure at the beginning of the REPAIR section. The Repair-General procedure also has an explanation of the True Position Dimension symbols used.

D. All dimensions, measures, quantities and weights included are in English units. When metric equivalents are given they will be in the parentheses that follow the English units.

E. The introduction to the Illustrated Parts List (IPL) shows how the IPL data is used.

F. Design changes, optional parts, configuration differences and Service Bulletin modifications may cause different part numbers. These part numbers are identified in the IPL with an alphabetical letter which is added to the end of the basic item number. This new item number is referred to as an alpha-variant. Throughout the manual, IPL basic item number references also apply to alpha-variants unless shown differently.

G. The tool reference numbers found in the individual procedures and in the Special Tools, Fixtures, and Equipment section are used to identify if a tool is a standard tool (STD-XXXX), a commercial tool (COM-XXXX), or a Special Tool (SPL-XXXX). This reference number is also used to distinguish between tools with similar names in the same procedure. These reference numbers are for use in the documentation only. They are not to be used for ordering tools.

PASSENGER DOOR SNUBBER ASSEMBLY - DESCRIPTION AND OPERATION

1. Description

A. The passenger door snubber assembly is a closed system hydraulic damper. The snubber assembly does not have an external hydraulic source. The snubber assembly operates in temperatures from -65°F to 160°F. The snubber assembly has a temperature compensator cavity in the body of the snubber assembly. The temperature compensator cavity contains additional hydraulic fluid to allow for volume changes due to temperature fluctuations.

2. Operation

A. The snubber assembly is attached to the door assembly at the stem assembly. The snubber assembly is attached to the hinge at the rod end bearing. The snubber assembly supplies a load to make the door move in a slow, controlled motion.

3. Leading Particulars (Approximate)

A. Length

(1) 141A6105-1, -6

(a) 9.2500 inches maximum (fully compressed)

(b) 11.5000 inches minimum (fully extended)

(2) 141A6105-2, -7

(a) 8.8500 inches maximum (fully compressed)

(b) 11.1000 inches minimum (fully extended)

(3) 141A6105-3, -11, -12

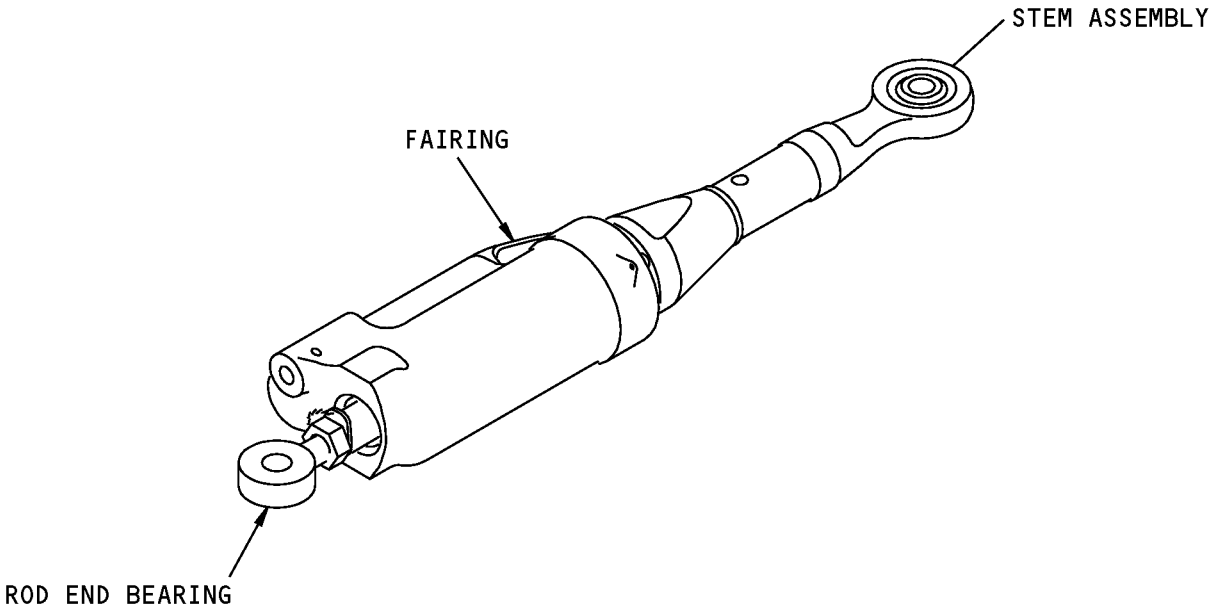
(a) 10.2700 inches maximum (fully compressed)

(b) 12.5200 inches minimum (fully extended)

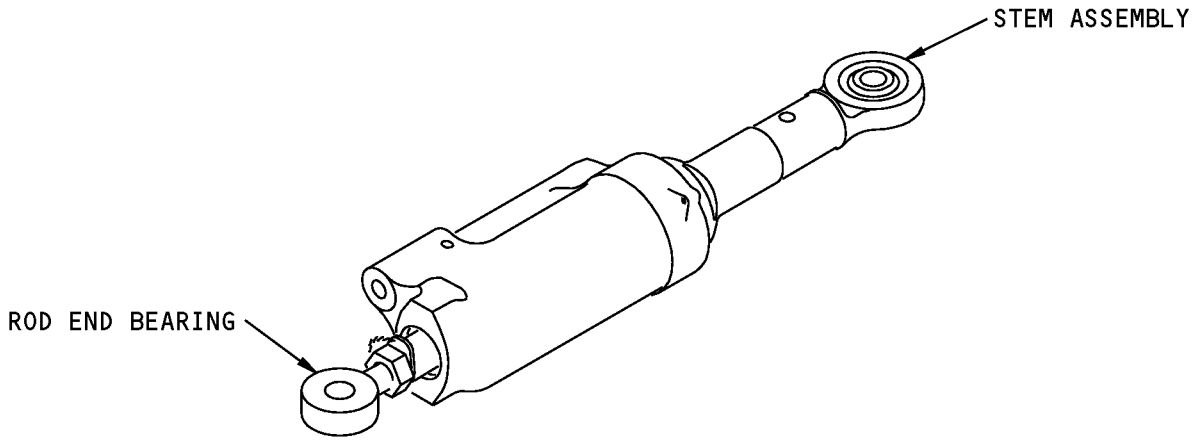
B. Width – 1.6 inches

C. Height – 2.5 inches

D. Weight – 5 pounds



FORWARD ENTRY DOOR
SNUBBER ASSEMBLY



FORWARD GALLEY, AFT ENTRY AND AFT GALLEY DOOR
SNUBBER ASSEMBLY

Passenger Door Snubber Assembly
Figure 1

TESTING AND FAULT ISOLATION

1. General

A. This procedure has the data necessary to do a test of the mechanism after an overhaul or for fault isolation.

B. Refer to the Standard Overhaul Practice Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for item numbers.

2. Testing and Fault Isolation

A. Special Tools and Equipment

NOTE: Equivalent tool/equipment can be used.

(1) F70339-41, Test Fixture (supersedes F70339-1)

B. Procedure

NOTE: Refer to ASSEMBLY as necessary during test.

(1) No indication of external leakage during the tests is permitted.

(2) Do an air check.

(a) Compress the snubber assembly fully and then release the snubber assembly. If the snubber assembly goes back immediately to the extended position then the snubber assembly may have air in it. Fill the snubber assembly again as shown in ASSEMBLY, Paragraph 2.C..

(3) Do a spring check at room temperature.

(a) Compress the snubber assembly fully and then release the snubber assembly. The snubber assembly must start to go back immediately. The snubber must also travel a minimum of 1 inch in 20 seconds.

(4) Do an oil check.

(a) Install the snubber assembly in the test fixture.

1) Ignore the setup dimension if you use the F70339-1 test fixture.

(b) Put the snubber assembly in the compressed position.

(c) Apply a 40-45-pound load to the free end of the snubber assembly to extend the snubber assembly.

(d) Release the snubber assembly and measure the time to have the snubber assembly get to the fully extended position.

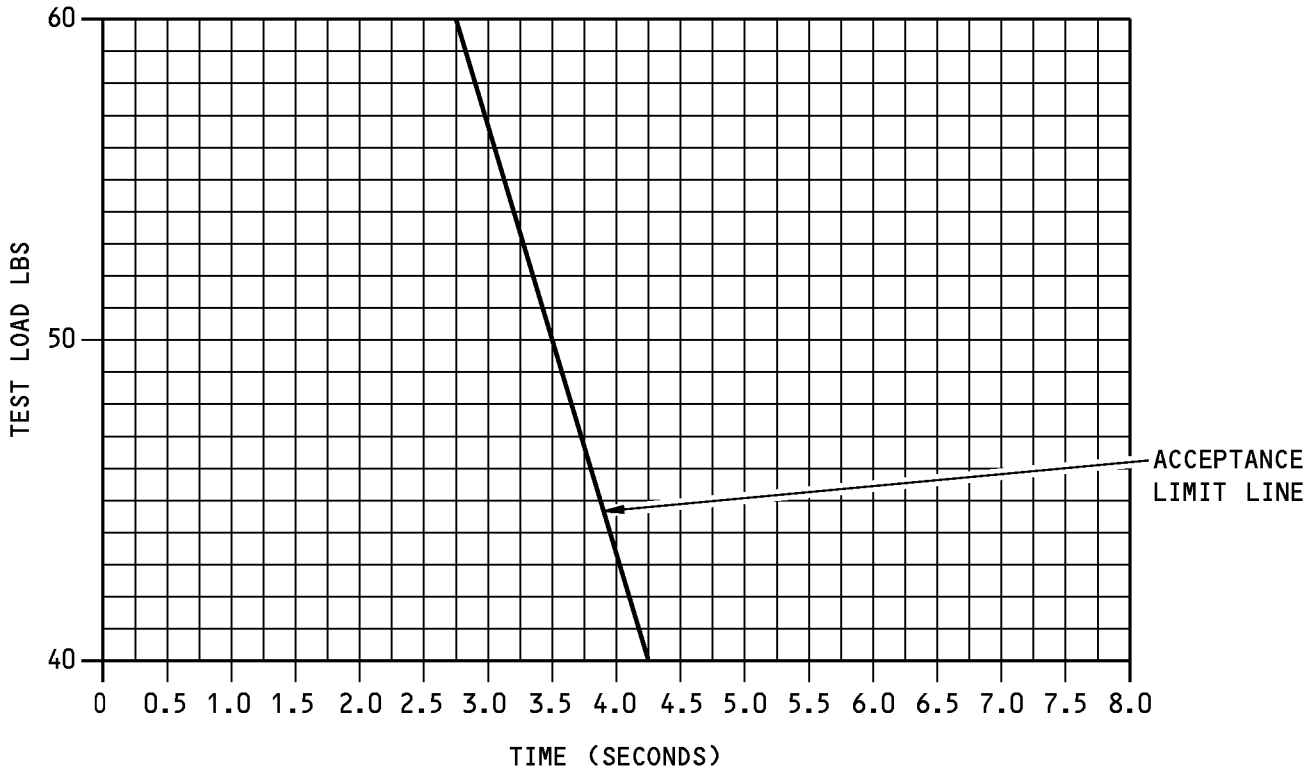
(e) Do steps TESTING AND FAULT ISOLATION, Paragraph 2.B.(4)(b) thru TESTING AND FAULT ISOLATION, Paragraph 2.B.(4)(d) again, but apply a 55-60-pound load.

(f) Make a plot of the two times on TESTING AND FAULT ISOLATION, Figure 101.

(g) Make a straight line through the two times. The line must go from the 40-pound line to the 60-pound line.

(h) The snubber assembly is satisfactory if the straight line made in TESTING AND FAULT ISOLATION, Paragraph 2.B.(4)(g) is on or to the right of the Acceptable Limit Line.

(i) The snubber assembly is unsatisfactory if the straight line made in TESTING AND FAULT ISOLATION, Paragraph 2.B.(4)(g) is to the left or goes across the Acceptable Limit Line.



141A6105-1,-2,-6,-7

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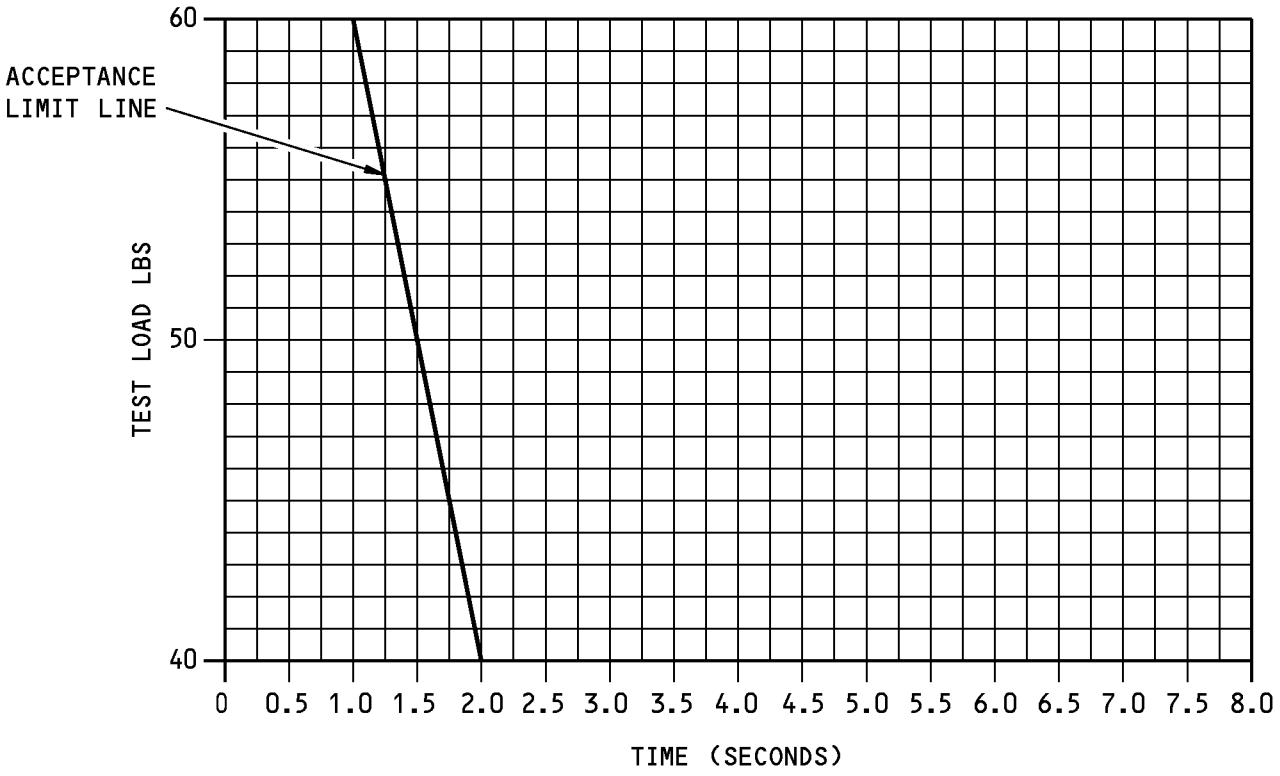
Snubber Assembly
Figure 101 (Sheet 1 of 2)



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Snubber Assembly
Figure 101 (Sheet 2 of 2)

DISASSEMBLY

1. General

A. This procedure has the data necessary to disassemble the snubber assembly.

B. Disassemble this component sufficiently to isolate the defects, do the necessary repairs, and put the component back to a serviceable condition.

C. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

D. Refer to IPL Figure 1 for item numbers.

2. Disassembly

A. Procedure

(1) Use standard industry procedures and the steps shown below to disassemble this component.

(2) For snubber assemblies 141A6105-1, -2, -6, and -7, remove the screws (107) and the filter plate (109) from the compensator retainer (120).

(3) For snubber assemblies 141A6105-3, -11 and -12, only remove the screws (100) and fairing (105).

(4) Remove the plug (30) from the snubber body (72, 73). The fluid will begin to flow out of the snubber body.

(5) Remove the snap-ring (110), the disk filter (115A), the compensator retainer (120), the compensator spring (125) and the compensator piston (135) from the snubber body (72, 73).

(6) Remove the lockwire from the nut (5) and lockwasher (10). Remove the nut (5), the lockwasher (10) and the rod-end bearing (15) from the plunger (155).

(7) Remove the lockwire from the snubber body (72, 73) and the stem assembly (45, 50). Remove the stem assembly (45, 50) from the snubber (72, 73).

NOTE: The stem (65, 70) and the snubber body (72, 73) are a matched set.

(8) Remove the spring (80) from the stem assembly (45, 50).

(9) Remove the plunger (155) from the snubber body (72, 73).

(10) Do a check and replace all seals, plugs and restrictors as necessary.

CLEANING

1. General

A. This procedure has the data necessary to clean the snubber assembly.

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for item numbers.

2. Cleaning

A. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES

B. Procedure

(1) Use standard industry procedures and refer to SOPM 20-30-03 to clean all parts.

(2) Make sure there is no paint or primer on the shaft of the plunger (155). Use a solvent that is not abrasive to clean the shaft of the plunger (155).

CHECK

1. General

A. This procedure has the data necessary to find defects in the material of the specified parts.

B. Refer to FITS AND CLEARANCES for the design dimension and wear limits.

C. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

D. Refer to IPL Figure 1 for item numbers.

2. Check

A. References

Reference	Title
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION
SOPM 20-20-02	PENETRANT METHODS OF INSPECTION

B. Procedure

(1) Use standard industry procedures to do a visual check of all the parts for defects. Do the penetrant or magnetic particle check if the visual check shows possible damage or if you suspect possible damage on the parts listed below:

(a) Do a magnetic particle check, Class B, (SOPM 20-20-01) of these parts:

1) Stem (65, 70)

2) Fairing (105)

3) Compensator retainer (120)

4) Compensator piston (135)

5) Plunger (155)

6) Snubber body (72, 73)

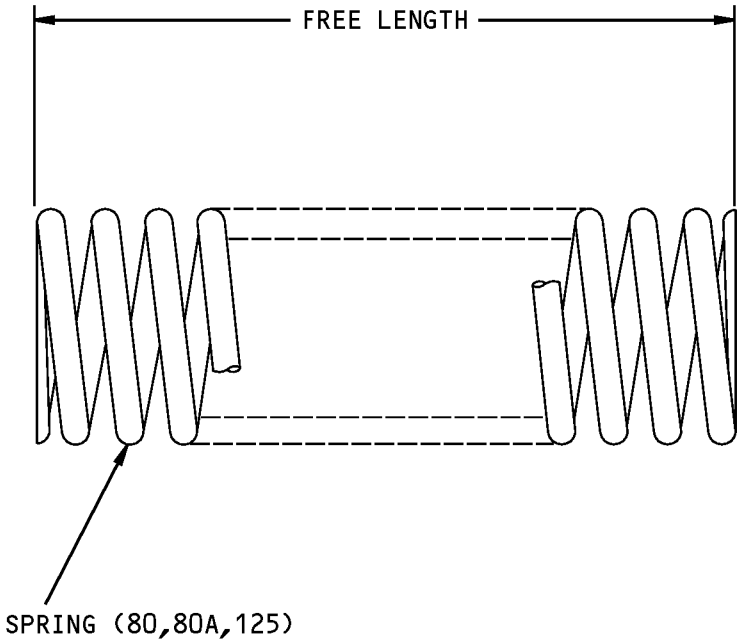
(b) Do a penetrant check (SOPM 20-20-02) of these parts:

1) Spring (80, 80A, 125)

(c) Do a deflection check as shown in CHECK, Figure 501 of these parts:

1) Spring (80, 80A, 125)

ITEM NO. IPL FIG. 1	FREE LENGTH (INCHES)	TEST LENGTH (INCHES)	PERMITTED LOAD LIMIT (POUNDS)
80	3.15 minimum	1.00 1.75	15.4–17 10.9–12.1
80A	3.00 minimum	0.680 1.5	19–27 12–20
125	3.12	1.750 2.550	10–15 4.5–8



ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

141A6004-1,-2,-3 Spring Check Details
Figure 501

REPAIR

1. General

A. Instructions for repair, refinish, and replacement of the specified subassembly parts are included in each REPAIR when applicable:

Table 601:

PART NUMBER	NAME	REPAIR
—	REFINISH OF OTHER PARTS	1-1
141A6007	STEM ASSEMBLY	2-1
141A6002	STEM	2-2
141A6005	COMPENSATOR PISTON	3-1
141A6003	PLUNGER	4-1

2. Dimensioning Symbols

A. Standard True Position Dimensioning Symbols used in the applicable repair procedures are shown in REPAIR-GENERAL, Figure 601.

—	STRAIGHTNESS
▱	FLATNESS
⊥	PERPENDICULARITY (OR SQUARENESS)
//	PARALLELISM
○	ROUNDNESS
⌭	CYLINDRICITY
⌒	PROFILE OF A LINE
⌓	PROFILE OF A SURFACE
◎	CONCENTRICITY
⌯	SYMMETRY
∠	ANGULARITY
↗	RUNOUT
↗↗	TOTAL RUNOUT
⌴	COUNTERBORE OR SPOTFACE
∨	COUNTERSINK
⌖	THEORETICAL EXACT POSITION OF A FEATURE (TRUE POSITION)
∅	DIAMETER
S ∅	SPHERICAL DIAMETER
R	RADIUS
SR	SPHERICAL RADIUS
()	REFERENCE
BASIC (BSC) OR [DIM]	A THEORETICALLY EXACT DIMENSION USED TO DESCRIBE SIZE, SHAPE OR LOCATION OF A FEATURE. FROM THIS FEATURE PERMISSIBLE VARIATIONS ARE ESTABLISHED BY TOLERANCES ON OTHER DIMENSIONS OR NOTES.
[-A-]	DATUM
Ⓜ	MAXIMUM MATERIAL CONDITION (MMC)
Ⓛ	LEAST MATERIAL CONDITION (LMC)
Ⓢ	REGARDLESS OF FEATURE SIZE (RFS)
Ⓟ	PROJECTED TOLERANCE ZONE
FIM	FULL INDICATOR MOVEMENT

EXAMPLES

— | 0.002	STRAIGHT WITHIN 0.002
⊥ | 0.002 | B	PERPENDICULAR TO DATUM B WITHIN 0.002
// | 0.002 | A	PARALLEL TO DATUM A WITHIN 0.002
○ | 0.002	ROUND WITHIN 0.002
⌭ | 0.010	CYLINDRICAL SURFACE MUST LIE BETWEEN TWO CONCENTRIC CYLINDERS, ONE OF WHICH HAS A RADIUS 0.010 INCH GREATER THAN THE OTHER
⌒ | 0.006 | A	EACH LINE ELEMENT OF THE SURFACE AT ANY CROSS SECTION MUST LIE BETWEEN TWO PROFILE BOUNDARIES 0.006 INCH APART RELATIVE TO DATUM A
⌓ | 0.020 | A	SURFACES MUST LIE WITHIN PARALLEL BOUNDARIES 0.020 INCH APART AND EQUALLY DISPOSED ABOUT TRUE PROFILE
◎ | ∅ 0.0005 | C	CONCENTRIC TO DATUM C WITHIN 0.0005 DIAMETER
⌯ | 0.010 | A	SYMMETRICAL WITH DATUM A WITHIN 0.010
∠ | 0.005 | A	ANGULAR TOLERANCE 0.005 WITH DATUM A
⌖ | ∅ 0.002 Ⓢ | B	LOCATED AT TRUE POSITION WITHIN 0.002 DIA RELATIVE TO DATUM B, REGARDLESS OF FEATURE SIZE
⊥ | ∅ 0.010 Ⓜ | A 0.510 Ⓟ	AXIS IS TOTALLY WITHIN A CYLINDER OF 0.010 INCH DIAMETER, PERPENDICULAR TO DATUM A, AND EXTENDING 0.510 INCH ABOVE DATUM A, MAXIMUM MATERIAL CONDITION
[2.000] OR 2.000 BSC	THEORETICALLY EXACT DIMENSION IS 2.000

True Position Dimensioning Symbols
Figure 601

REFINISH OF OTHER PARTS - REPAIR 1-1

1. General

A. This procedure has the data necessary to refinish the parts which are not given in the specified repairs.

B. Refer to the Standard Overhaul Practice Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for item numbers.

2. Refinish of Other Parts

A. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

B. General

(1) Instructions for the repair of the parts listed in REPAIR 1-1, Table 601 is for the repair of the initial finish.

C. Procedure

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Refer to REPAIR 1-1, Table 601 for refinish details.

Table 601: Refinish Details

IPL FIG. & ITEM	MATERIAL	FINISH
IPL Fig. 1		
Spring (80,125)	17-7PH Heat treat CH900	Passivate (F-17.25).
Fairing (105), Compensator Retainer (120), Snubber Body (72, 73)	15-5 CRES 150-170 ksi	Passivate (F-17.25).

STEM ASSEMBLY - REPAIR 2-1

141A6007–1, –2

1. General

A. This procedure has the data necessary to repair the stem assembly (45, 50).

B. Refer to the Standard Overhaul Practice Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to the REPAIR-GENERAL, Figure 601 for the Standard True Position Dimensioning Symbols shown in the repair.

D. Refer to IPL Figure 1 for item numbers.

2. Wear Strip Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00028	Adhesive - Modified Epoxy For Rigid PVC, Foam Cored Sandwiches	BAC5010, Type 70 (BMS5-92, Type 1)

B. References

Reference	Title
SOPM 20-50-12	APPLICATION OF ADHESIVES

C. Procedure

(1) Remove the wear strip (55) from the stem (65, 70).

(2) Install the new wear strip (55) on the stem (65, 70) with adhesive, A00028 as shown in SOPM 20-50-12 and REPAIR 2-1, Figure 601.

3. Bearing Replacement

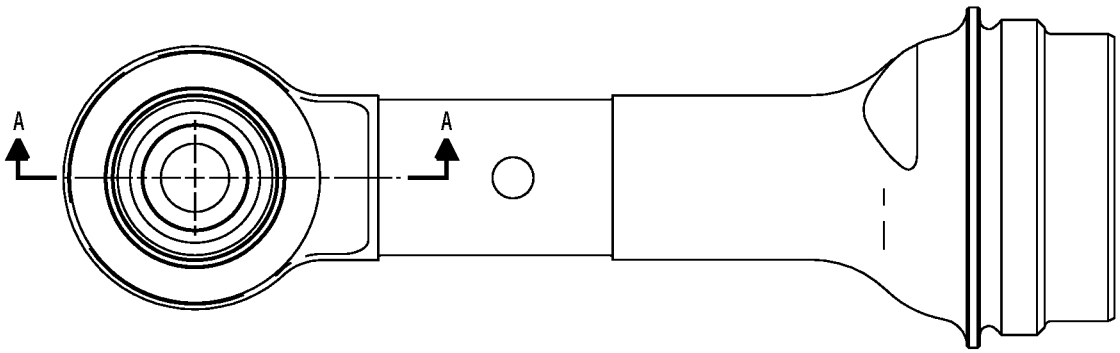
A. References

Reference	Title
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT

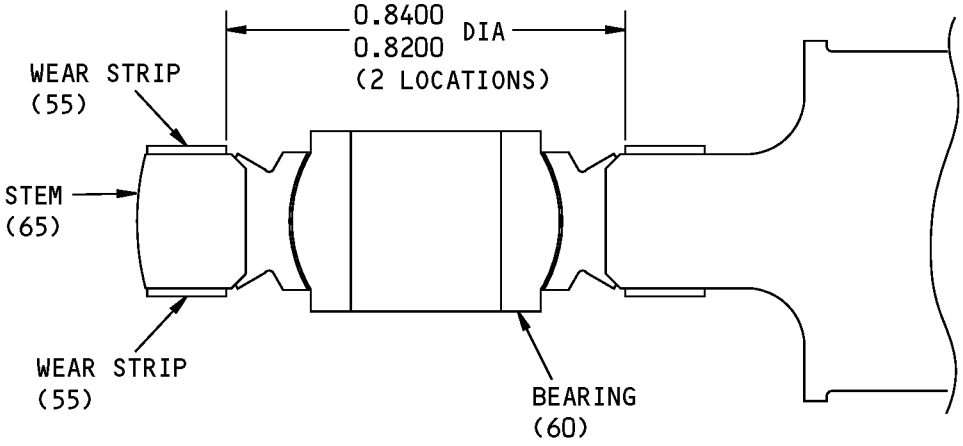
B. Procedure

(1) Remove the bearing (60) from the stem (65, 70).

(2) Install the new bearing (60) in the stem (65, 70) as shown in SOPM 20-50-03, roller-swage procedure.

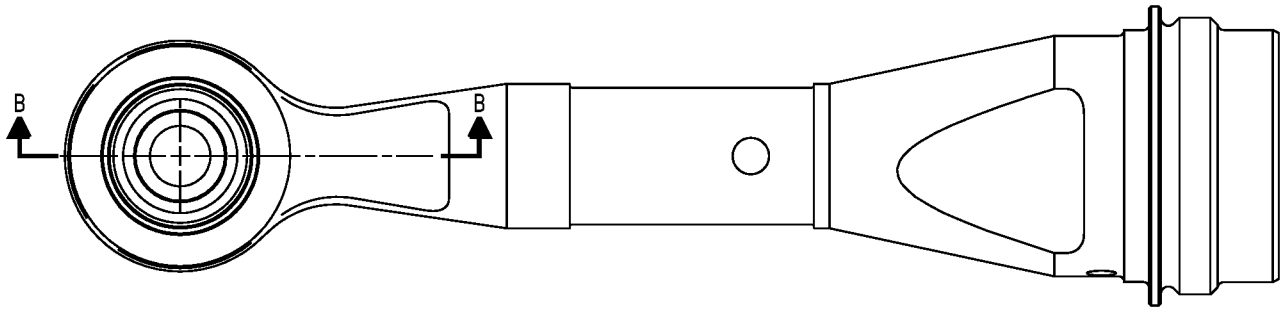


141A6007-1

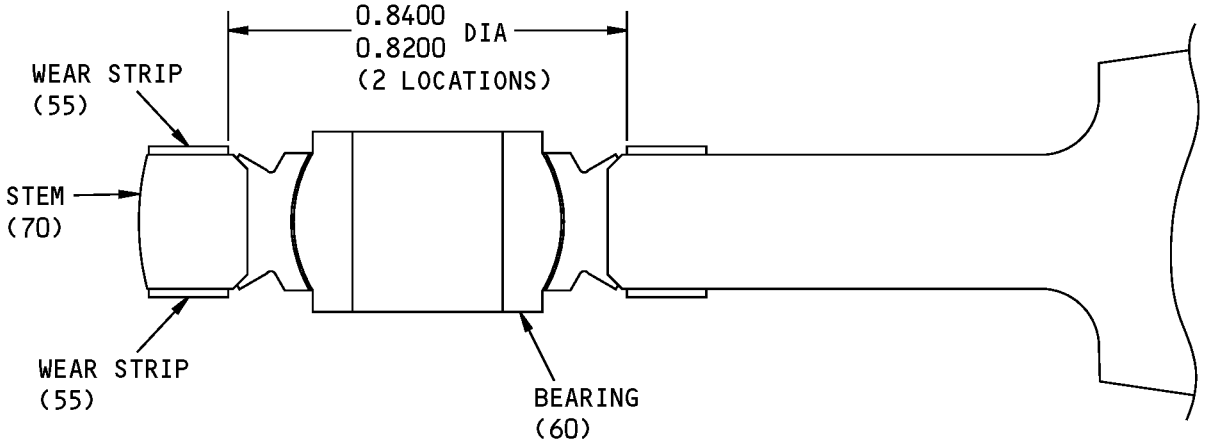


A-A

141A6007-1,-2 Stem Assembly Repair
Figure 601 (Sheet 1 of 2)



141A6007-2



B-B

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

141A6007-1,-2 Stem Assembly Repair
Figure 601 (Sheet 2 of 2)

STEM - REPAIR 2-2

141A6002–1, –2

1. General

A. This procedure has the data necessary to repair and refinish the Stem (65, 70).

B. Refer to the Standard Overhaul Practice Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Figure 601 for the Standard True Position Dimensioning Symbols shown in the repair.

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material: 15-5PH CRES, AMS 5659 170-190 ksi

2. Stem Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00113	Lubricant - Liquid Dispersed Solid Film Lubricant	BMS3-8, BAC 5811, TYPE VIII

B. References

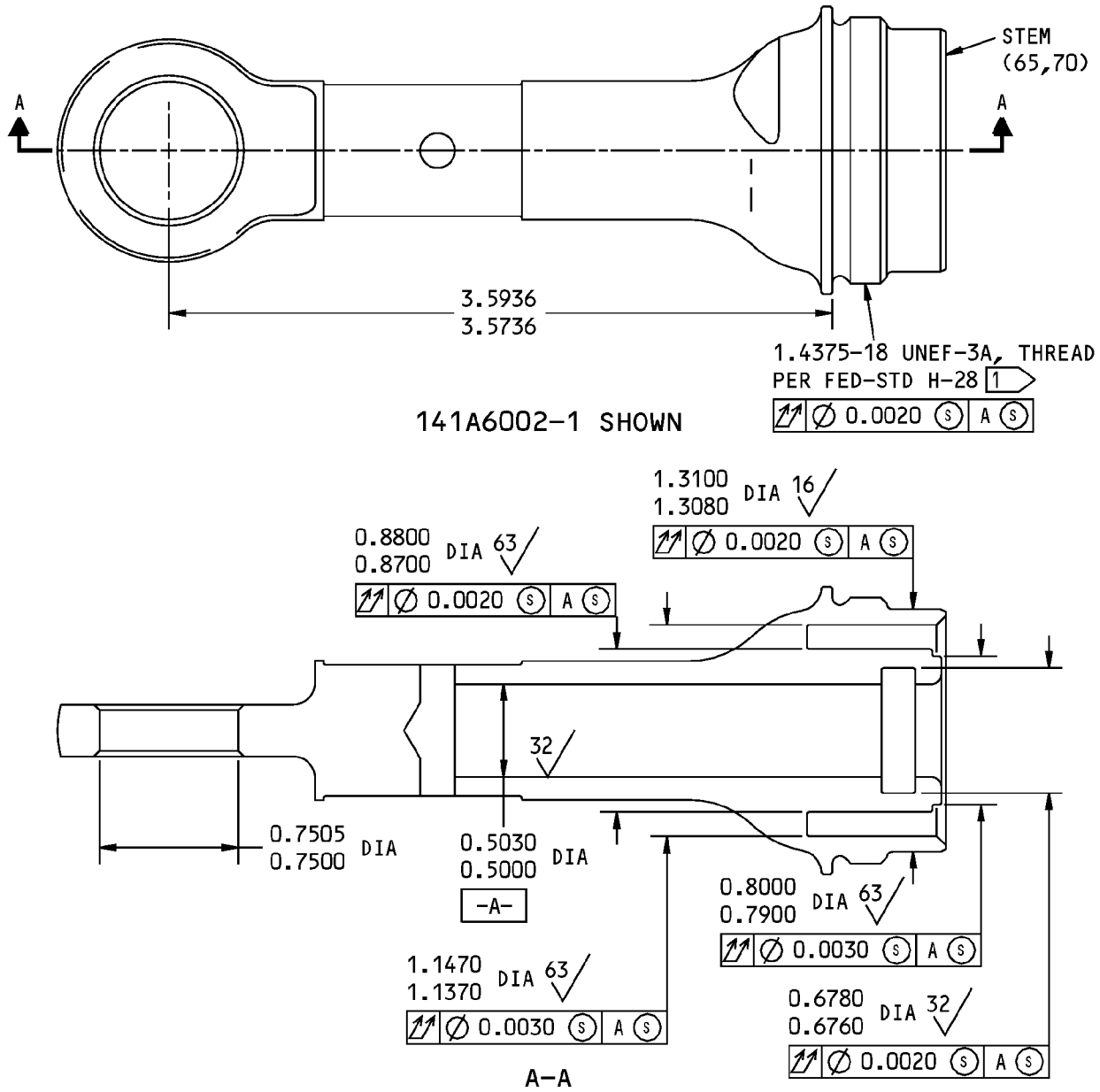
Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-50-08	APPLICATION OF BONDED SOLID FILM LUBRICANTS
SOPM 20-60-02	FINISHING MATERIALS
SOPM 20-60-03	LUBRICANTS

C. Procedure

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02. For lubricants, refer to SOPM 20-60-03.

(1) Passivate (F-17.25) the stem (65, 70) all over as shown in SOPM 20-30-03. Do not passivate the threads on the stem (65, 70).

(2) Apply lubricant, D00113 (F-19.10) to the threads of the stem as shown in SOPM 20-50-08 and REPAIR 2-2, Figure 601.



1 APPLY BMS 3-8 SOLID FILM LUBRICANT (F-19.10) ON THE THREADS OF THE STEM (65,70).

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.005 R

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

141A6002-1,-2 Stem Repair
Figure 601

COMPENSATOR PISTON - REPAIR 3-1

141A6005–1, –2

1. General

A. The procedure has the data necessary to repair and refinish the compensator piston (135).

B. Refer to the Standard Overhaul Practice Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Figure 601 for the Standard True Position Dimensioning Symbols shown in the repair.

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material: 15-5 CRES, AMS 5659 150-170 ksi

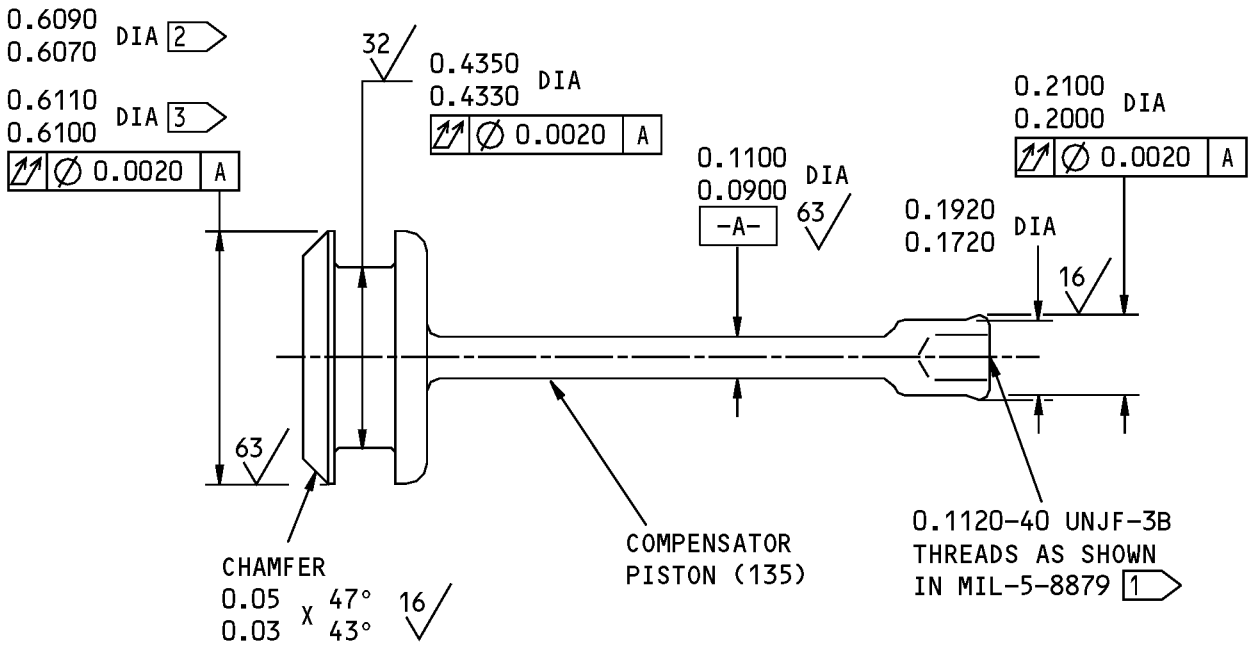
2. Compensator Piston Refinish

A. Procedures

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Passivate (F-17.25) as shown in SOPM 20-30-03.

(2) Apply 0.0003-0.0005 inch thick chromium plate (F-14.892) to all surfaces but the threads as shown in SOPM 20-42-03 Class 4 and REPAIR 3-1, Figure 601.



1 APPLY 0.0003-0.0005 INCH THICK CHROMIUM PLATE (F-14.892) TO ALL SURFACES BUT NOT ON THE THREADS AS SHOWN IN SOPM 20-42-43, CLASS 4

2 141A6005-1

3 141A6005-2

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.005 R

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

141A6005-1,-2 Compensator Piston Repair
Figure 601

PLUNGER - REPAIR 4-1

141A6003–1

1. General

A. This procedure has the data necessary to repair and refinish the plunger (155).

B. Refer to the Standard Overhaul Practice Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Figure 601 for the Standard True Position Dimensioning Symbols shown in the repair.

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material: 15-5PH CRES, AMS 5659 180-200 ksi

2. Plunger Repair

A. References

Reference	Title
SOPM 20-10-02	MACHINING OF ALLOY STEEL

B. Procedure

(1) Machine the keyway-end of the plunger to the recommended shape as specified in REPAIR 4-1, Figure 601 and SOPM 20-10-02.

3. Plunger Refinish

A. References

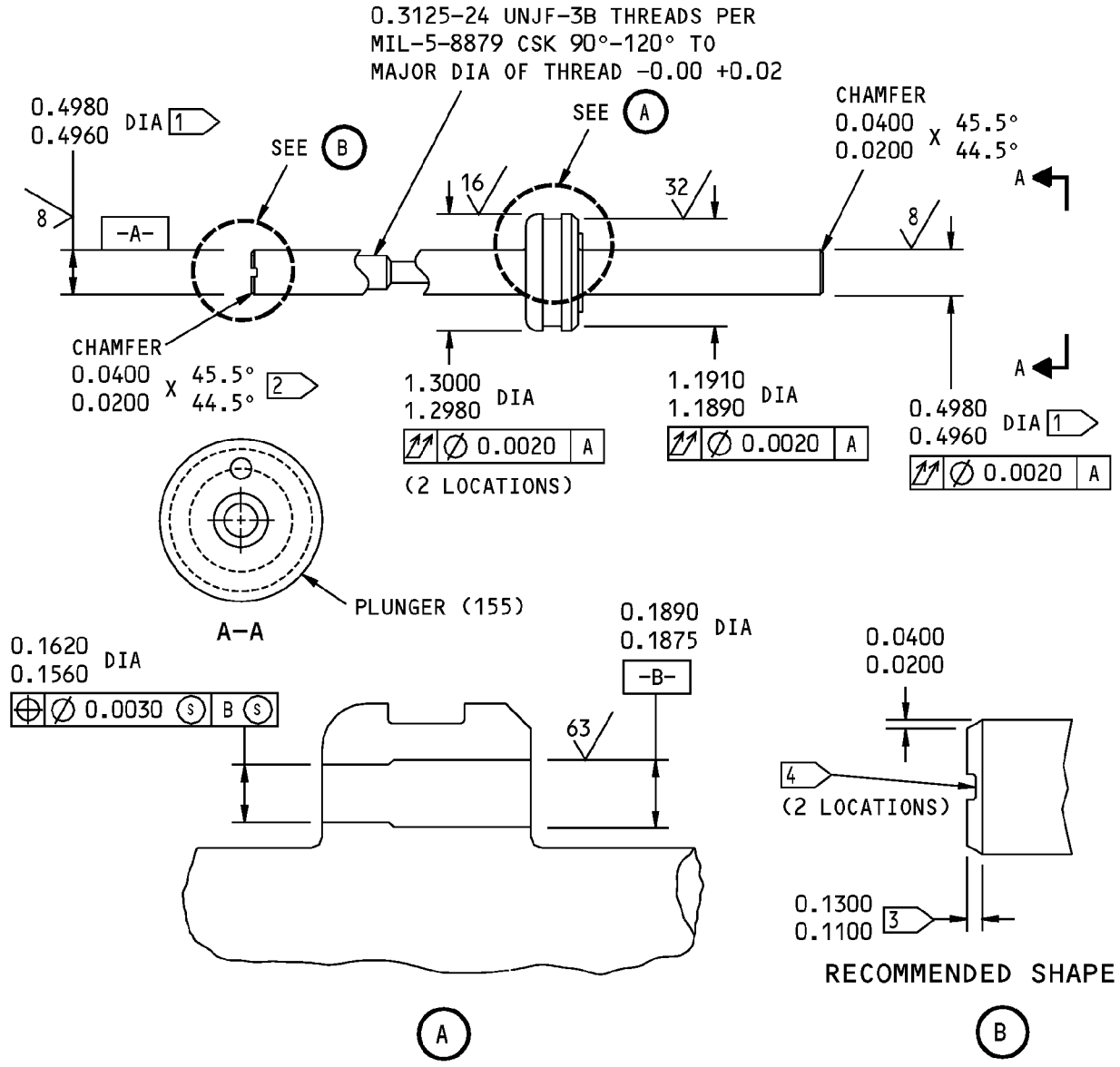
Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-42-03	HARD CHROME PLATING
SOPM 20-60-02	FINISHING MATERIALS

B. Procedures

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Passivate (F-17.25) as shown in SOPM 20-30-03.

(2) Apply 0.0003-0.0005 inch thick chromium plate (F-14.892) as shown in SOPM 20-42-03, class 4 and REPAIR 4-1, Figure 601.



1 APPLY 0.0003-0.0005 INCH THICK CHROMIUM PLATE (F-14.892) AS SHOWN IN SOPM 20-42-43, CLASS 4

2 INITIAL DESIGN DIMENSION

3 RECOMMENDED DESIGN DIMENSION

4 BREAK THE SHARP EDGE 0.010-0.020 ALL AROUND THE KEYWAY

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.005 R

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

141A6003-1 Plunger Repair
Figure 601

MARKER - REPAIR 5-1

20237

1. General

A. This procedure has the data necessary to replace the marker (170).

B. Refer to the Standard Overhaul Practice Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for item numbers.

2. Marker Replacement (170)

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00028	Adhesive - Modified Epoxy For Rigid PVC, Foam Cored Sandwiches	BAC5010, Type 70 (BMS5-92, Type 1)

B. References

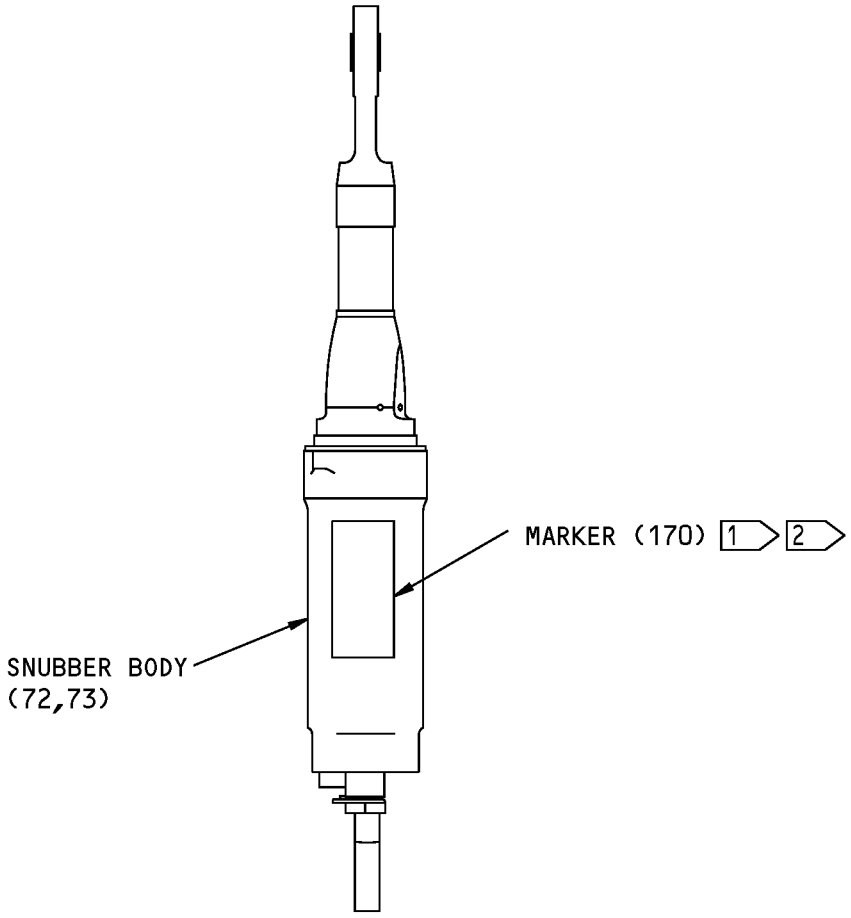
Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-50-05	APPLICATION OF ALUMINUM FOIL AND OTHER MARKERS
SOPM 20-50-12	APPLICATION OF ADHESIVES

C. Procedure

(1) Remove the damaged marker (170) from the snubber body (72, 73) as shown in REPAIR 5-1, Figure 601.

(2) Clean the snubber body (72, 73) bonding surface as shown in SOPM 20-30-03.

(3) Install the marker (170) (SOPM 20-50-05) onto the snubber body (72, 73) with adhesive, A00028 (SOPM 20-50-12) as identified by flagnote 1 and 2 in REPAIR 5-1, Figure 601 .



1 PUT THE MARKER (170) HERE

2 ATTACH AND SEAL THE EDGES WITH
BMS 5-92 AS SHOWN IN SOPM 20-05-12
(TYPE 70)

Marker Replacement
Figure 601

ASSEMBLY

1. General

A. This procedure has the data necessary to assemble the snubber assembly.

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for item numbers.

2. Assembly

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00645	Oil - Micronic - Brayco 762	
D50089	Oil - Hydraulic, Royco 757	
G50347	Lockwire - Nickel-copper, 0.032 inch diameter	NASM20995N˜ C32

B. References

Reference	Title
SOPM 20-50-01	BOLT AND NUT INSTALLATION
SOPM 20-50-02	INSTALLATION OF SAFETYING DEVICES
SOPM 20-50-04	INSTALLATION OF PERMANENT PINS AND PLUGS IN DRILL PASSAGES
SOPM 20-50-07	LUBRICATION
SOPM 20-60-03	LUBRICANTS

C. Procedure

NOTE: For bolt and nut installation, refer to SOPM 20-50-01. For lubrication, refer to SOPM 20-50-07. For lubricants, refer to SOPM 20-60-03.

(1) Use standard industry procedures and the steps shown below to assemble this component.

(2) The snubber assembly must be assembled at these conditions:

(a) Temperature - 60-80°F

(b) Atmospheric Pressure - 13-17 psi

(c) Relative Humidity - 10-90%

(3) The temperature of the Brayco 762 oil, D00645 or Royco 757 oil, D50089 must be 65-75°F during assembly.

(4) Lubricate all nitrile seals (130A) with Brayco 762 oil, D00645or Royco 757 oil, D50089.

(5) Install the seal (130A) on the compensator piston (135) as shown in ASSEMBLY, Figure 701.

(6) Put the compensator spring (125) on the compensator retainer (120) as shown in ASSEMBLY, Figure 701.

(7) Put a MS35649-242 nut on a NAS600-32 bolt and turn the nut to the end of the threads as shown in ASSEMBLY, Figure 701.

NOTE: Equivalent nut can be used.

NOTE: BACS12CK04-32 bolt or equivalent can be used.

(8) Install a NAS1149FN432P washer and then a BACW10P68S washer on the bolt as shown in ASSEMBLY, Figure 701.

NOTE: Equivalent washers can be used together.

(9) Put the compensator piston (135) in the compensator spring (125) as shown in ASSEMBLY, Figure 701.

(10) Put the NAS600-32 bolt with the NAS1149FN432P and BACW10P68S washers and MS35649-242 nut in the center hole of the compensator retainer (120). Turn the NAS600-32 bolt as far into the end of the compensator piston (135) as possible as shown in ASSEMBLY, Figure 701.

(11) Install the compensator piston (135) in the snubber body (72, 73) and install the compensator spring (125), compensator retainer (120) and the snap-ring (110). Do not install the filter (115A) and filter plate (109) at this time. Make sure the seal (130A) is not damaged when the compensator piston is pushed past the snap-ring groove.

(12) Put all of the parts in Brayco 762 oil, D00645or Royco 757 oil, D50089 fully, but do not put the rod end bearing (15), the nut (5A), the washer (10), the fluid plug (30), the filter strap (75), the filter (115A), the filter plate (109), the fairing (105) and the screws (100, 107) in the Brayco 762 oil, D00645or Royco 757 oil, D50089.

(13) Push the compensator piston (135) to the far end of the bore in the snubber body (72, 73). Make sure that the compensator piston (135) stays at the far end of the bore in the snubber body (72, 73).

(14) Tighten the MS35649-242 nut until the BACW10P68S washer is tightly against the end of the snubber body (72, 73).

(15) While the assembly is in the Brayco 762 oil, D00645 or Royco 757 oil, D50089, pull the BACW10P68S washer and insert a 1.1400 inch spacer so that the piston (135) inside the compensator is pulled back against the compensator spring (125) and fluid completely fills the cavity.

(16) Keep the assembly fully in the Brayco 762 oil, D00645 or Royco 757 oil, D50089.

(a) Install the wedge pak seal (25) and the U-cup scraper (20) in the snubber body (72, 73).

(b) Install the packing seal (90) and the backup ring (95) in the snubber body (72, 73).

(c) Install the channel seal (140) and the packing seal (145) in the groove of the plunger (155).

CAUTION: MAKE SURE THE WEDGE PAK SEAL (25) IS NOT DAMAGED WHEN THE PLUNGER (155) IS INSTALLED IN THE SNUBBER BODY (72, 73).

(d) Install the jet restrictor (150) in the plunger (155).

(e) Install the plunger (155) in the snubber body (72, 73) with the assembly tool, EMCO Fluid Systems TX141A6105SL-3.

(f) Install the wedge pak seal (85) in the groove in the stem assembly (45, 50).

(g) Put the spring (80) in the stem assembly (45, 50) as shown in ASSEMBLY, Figure 702.

(h) Turn the stem assembly (45, 50) into the snubber body (72, 73) until it is hand-tight.

NOTE: The stem (65, 70) and the snubber body (72, 73) are a matched set.

(i) Install the permanent plugs (40) and the permanent pins (41) in the snubber body (72, 73) as specified in SOPM 20-50-04.

(17) Remove the assembly from the Brayco 762 oil, D00645 or Royco 757 oil, D50089.

(18) Make sure the snubber body (72, 73) is full of Brayco 762 oil, D00645 or Royco 757 oil, D50089.

(a) Install the jet restrictor (35) into the snubber body (72, 73).

(b) Install the permanent plug (30) and the permanent pin (31) in the snubber body (72, 73) as specified in SOPM 20-50-04.

(c) Turn the stem assembly (45, 50) into the snubber body (72, 73) until the index mark as shown in ASSEMBLY, Figure 703 aligns with the hole for the lockwire, G50347 on the snubber body (72, 73). The torque should be between 35 and 45 pound-feet.

(19) Remove the NAS600-32 bolt from the end of the compensator piston (135) (ASSEMBLY, Figure 701).

(20) Compress the plunger (155) until it is immediately away from the vent holes of the stem assembly (45, 50) to drain the unwanted Brayco 762 oil, D00645 or Royco 757 oil, D50089 from the stem assembly (45, 50).

(21) Apply compressed air to one vent hole to blow the unwanted Brayco 762 oil, D00645 or Royco 757 oil, D50089 out of the other vent hole.

(22) Install the rod end bearing (15) in the plunger (155) with the lock washer (10) and the nut (5A).

(23) Install the filter strap (75) on the stem assembly (45, 50).

(24) Install the disk filter (115A).

(a) Push the compensator retainer (120) into the bore of the snubber body (72, 73) to make a space between the compensator retainer (120) and the snap ring (110).

(b) Install the disk filter (115A) and the filter cover (117) between the compensator retainer (120) and the snap ring (110).

(c) After the disk filter (115A) is installed, make sure the compensator retainer (120) goes back to its initial position. Make sure the filter (115A) is tight between the compensator retainer (120) and the snap-ring (110).

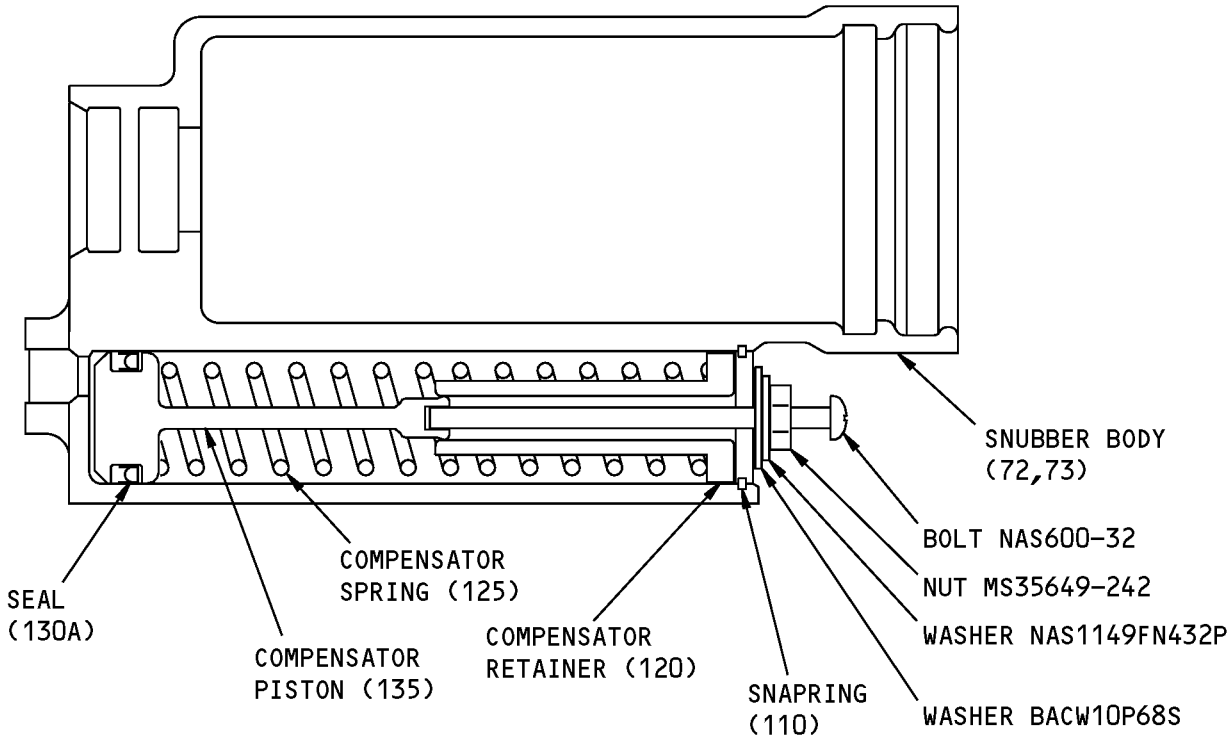
(25) For 141A6105-3, -11, -12 snubber assemblies, install the fairing (105) onto the snubber body (73) with the screws (100). Make sure that the surface of the fairing (105) aligns with the surface of the snubber body (73) in less than 0.005 inch. Make sure that the surface of the fairing (105) aligns with the surface of the stem assembly (45, 50) in less than 0.005 inch.

(26) For 141A6105-1, -2, -6, -7 snubber assemblies, install the filter plate (109) onto the snubber body (72) with the screws (107).

(27) Do the functional checks as shown in TESTING AND FAULT ISOLATION.

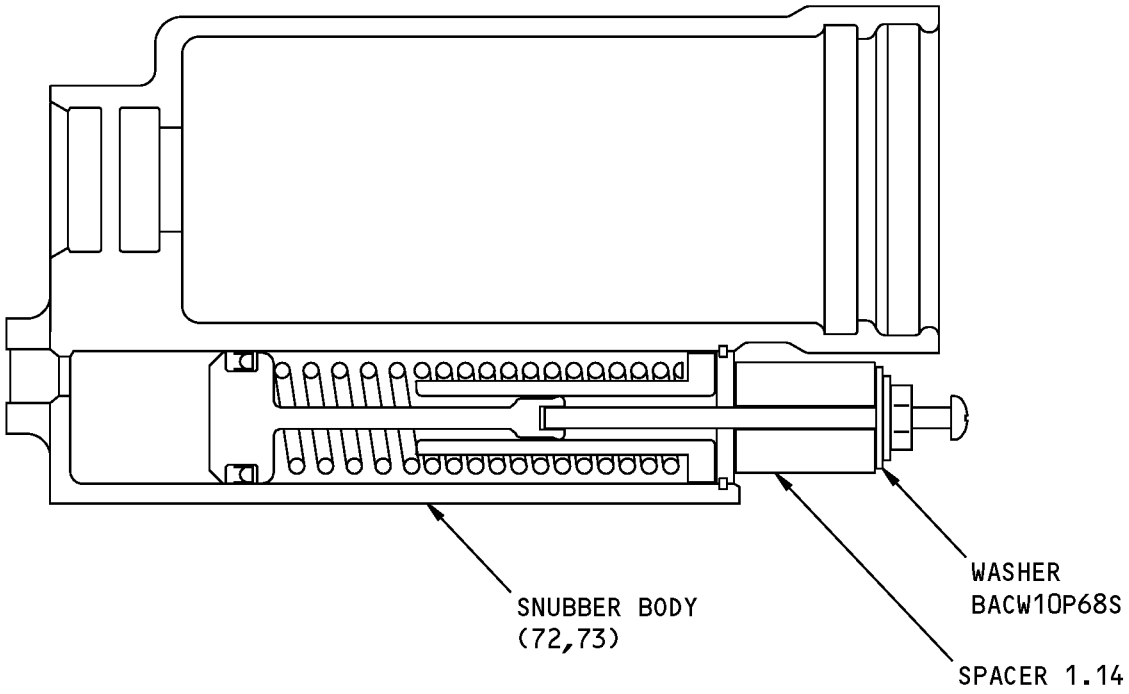
(28) Install the lockwire, G50347 on the nut (5A) and the lockwasher (10) as shown in SOPM 20-50-02, double-twist procedure.

(29) Install the lockwire, G50347 on the snubber body (72, 73) and the stem assembly (45, 50) as shown in SOPM 20-50-02, double-twist procedure.



COMPENSATOR INSTALLATION WITHOUT SPACER

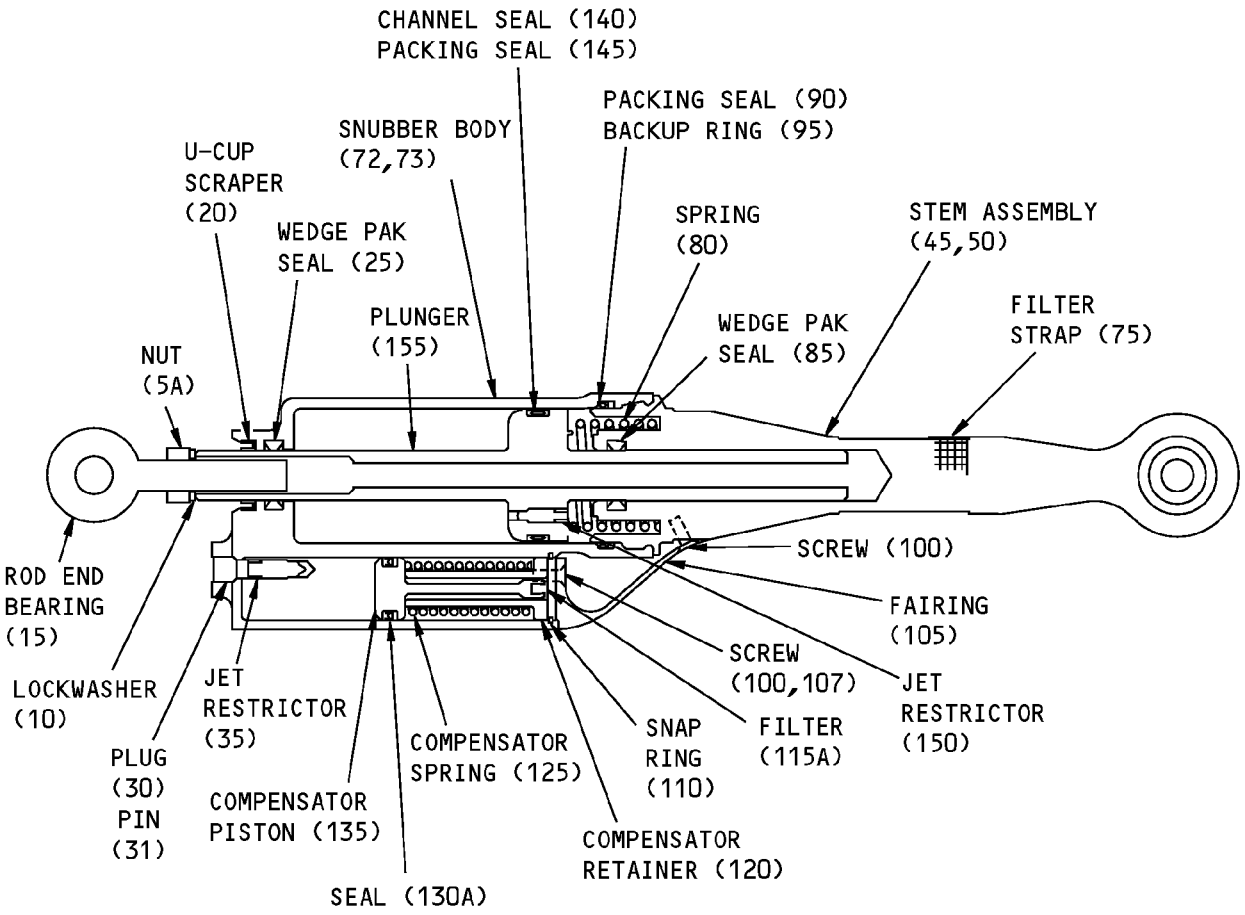
Snubber Assembly - Compensator Installation
Figure 701 (Sheet 1 of 2)



COMPENSATOR INSTALLATION WITH SPACER

ALL DIMENSIONS ARE IN INCHES

Snubber Assembly - Compensator Installation
Figure 701 (Sheet 2 of 2)



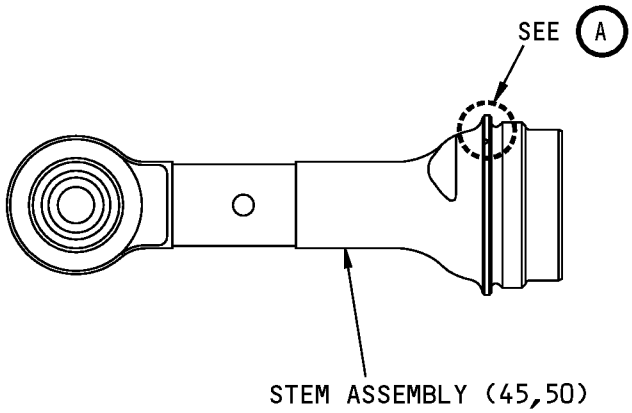
NOTE: FILTER PLATE (109) NOT SHOWN.

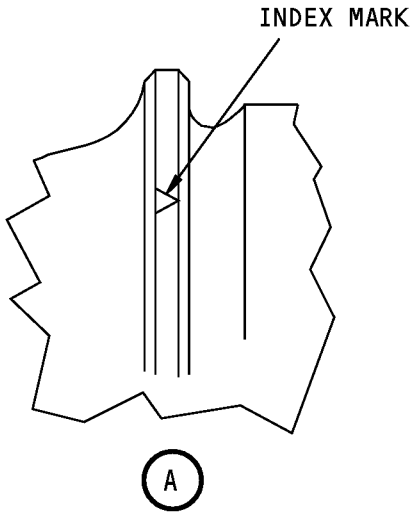
(SHOWN 80% COMPRESSED)

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Snubber Assembly
Figure 702





Snubber Assembly - Stem Assembly Index Mark
Figure 703

FITS AND CLEARANCES

REF IPL		NAME	TORQUE*	
FIG. NO.	ITEM NO.		POUND-INCHES	POUND-FEET
1	45,50	Stem Assembly		35-45

* REFER TO SOPM 20-50-01 FOR TORQUE VALUES OF STANDARD FASTENERS.

Torque Table
Figure 801

(NOT APPLICABLE)

ILLUSTRATED PARTS LIST

1. Introduction

A. The Illustrated Parts List (IPL) contains an illustration and a list of component parts you can repair or replace. The Illustrated Parts Catalog (IPC) shows how to use the Boeing part number system.

B. This shows how parts are related: The relation of each item to its next higher assembly (NHA) is shown in the NOMENCLATURE column. Use the indenture system that follows:

1 2 3 4 5 6 7

. Assembly

. Attaching parts for assembly

. . Detail parts for assembly

. . Subassembly

. . Attaching parts for subassembly

. . . Detail parts for subassembly

. . . Sub-subassembly

. . . Attaching parts for subassembly

. . . . . Details parts for sub-subassembly

Detail Installation Parts (Included only if installation parts may be sent to the shop as part of assembly)

C. Each top assembly is given one use code letter (A, B, C, etc.) in the USAGE CODE column. All subsequent component parts in the list can have one or more of the use code letters to show effectivity to top assemblies. A component part without a use code applies to all top assemblies.

D. An alphabetical letter is added after the item number for optional parts, parts changed by a Service Bulletin, configuration differences (except left-handed and right-handed parts), last engineering releases, and parts added between item numbers in a sequence. The alphabetical letter will not be shown on the illustration for equivalent parts of the same part number.

E. Color-coded parts are identified with a single digit alpha following the dash number or with ''SP'' suffix. If the ''SP'' suffix is used, it represents consolidation of all color codes applicable for a given usage which are not separately listed. Orders for color-coded parts should include the registry number of the airplane for which the parts are ordered.

F. If a part number is 15 characters long but will not fit in the part number column, the part number will be displayed with a ''~'' at the end of the line and will be continued on the next line. The ''~'' denotes that the part number continues on the next line.

G. Parts changed by a Service Bulletin are shown by PRE SB XXXX and POST SB XXXX added to the NOMENCLATURE column.

(1) When a new top assembly is added by a Service Bulletin, PRE SB XXXX and POST SB XXXX will be added at the top assembly level only. The configuration differences at the detail part level are shown by use code letters.

(2) When the top assembly part number is not changed by the Service Bulletin, PRE SB XXXX and POST SB XXXX will be added at the detail level.

H. Interchangeable Parts

Optional (OPT)	The part is optional to and interchangeable with other parts that have the same item number.
Replaces, Replaced by and not interchangeable with (REPLACES, REPLACED BY AND NOT INTCHG/W)	The part replaces and is not interchangeable with the initial part.
Replaces, Replaced by (REPLACES, REPLACED BY)	The part replaces and is interchangeable with, or is an alternative to, the initial part.

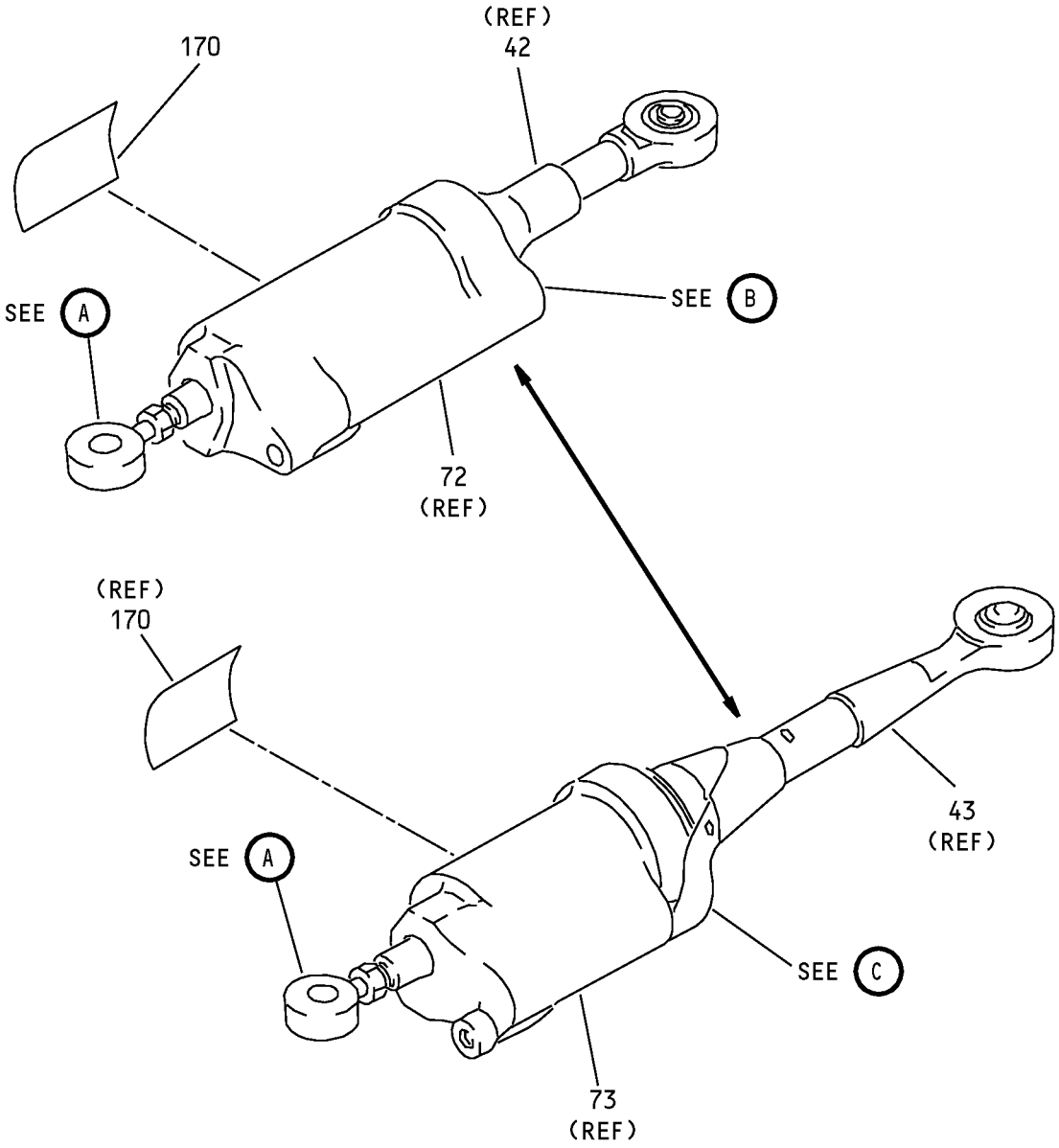
VENDOR CODES

Code	Name
09257	BUSAK AND SHAMBAN INC SEALS DIV 2531 BREMER DR PO BOX 176 FORT WAYNE, INDIANA 46801 FORMERLY SHAMBAN, W S AND CO
26303	GREENE TWEED IND INC ADVANTEC DIV 7101 PATTERSON DRIVE PO BOX 5037 GARDEN GROVE, CALIFORNIA 92645-5037 FORMERLY OHIO AIRCRAFT SUPPLIES INC IN INGLEWOOD, CALIFORNIA FORMERLY ADVANTEC DIV OF IFP INC, LOS ANGELES, CA V5P801
50632	KAMATICS CORP SUB OF KAMAN CORP 1335 BLUE HILLS ROAD BLOOMFIELD, CONNECTICUT 06002-1304
61898	EFS AEROSPACE INC 24910 TIBBETTS AVENUE VALENCIA, CALIFORNIA 91355 FORMERLY EMCO FLUID SYSTEMS INC
92555	LEE COMPANY 2 PETTIPAUG ROAD PO BOX 424 WESTBROOK, CONNECTICUT 06498-1543
97820	BUSAK AND SHAMBAN INC BEARING DIV 711 MITCHELL ROAD PO BOX 665 NEWBURY PARK, CALIFORNIA 91320-2214 FORMERLY IN CULVER CITY, CALIF; FORMERLY SHAMBAN W S & CO

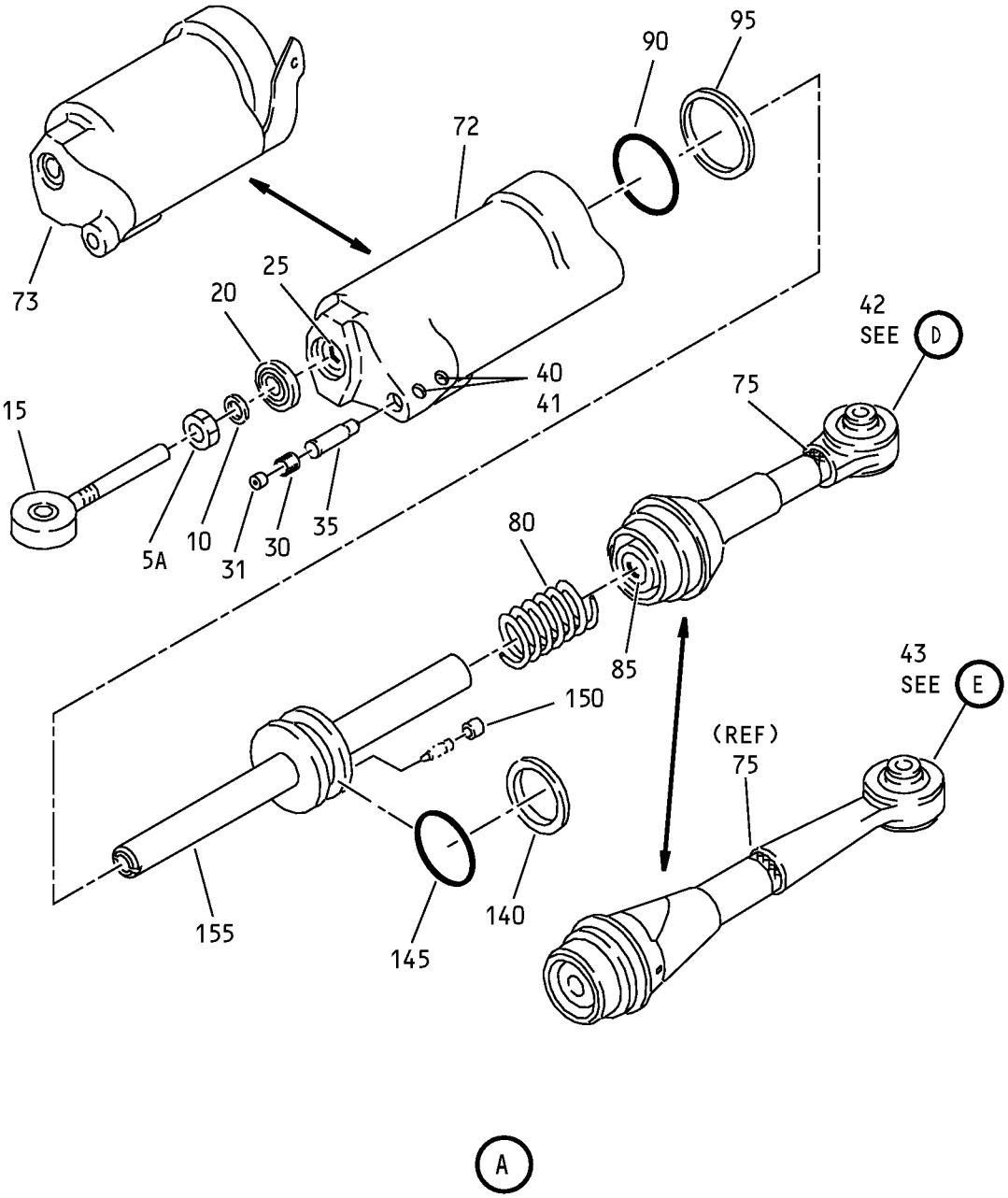
NUMERICAL INDEX

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
141A6001-1		1	72	1
141A6001-2		1	73	1
141A6001-3		1	72A	1
141A6001-4		1	73A	1
141A6002-1		1	65	1
141A6002-2		1	70	1
141A6003-1		1	155	1
141A6004-1		1	80	1
141A6004-2		1	125	1
141A6004-3		1	80A	1
141A6005-1		1	135	1
141A6005-2		1	135A	1
141A6007-1		1	45	1
141A6007-2		1	50	1
141A6008-1		1	120	1
141A6009-1		1	105	1
141A6009-2		1	105A	1
		1	105C	1
141A6009-3		1	105B	1
141A6105-1		1	1A	RF
141A6105-10		1	43A	1
141A6105-11		1	1G	RF
141A6105-12		1	1H	RF
141A6105-2		1	1B	RF
141A6105-3		1	1C	RF
141A6105-4		1	42	1
141A6105-5		1	43	1
141A6105-6		1	1D	RF
141A6105-7		1	1E	RF
141A6105-9		1	42A	1
20050		1	109	1
20058		1	115A	1
20237		1	170	1
30546SB10		1	75	1

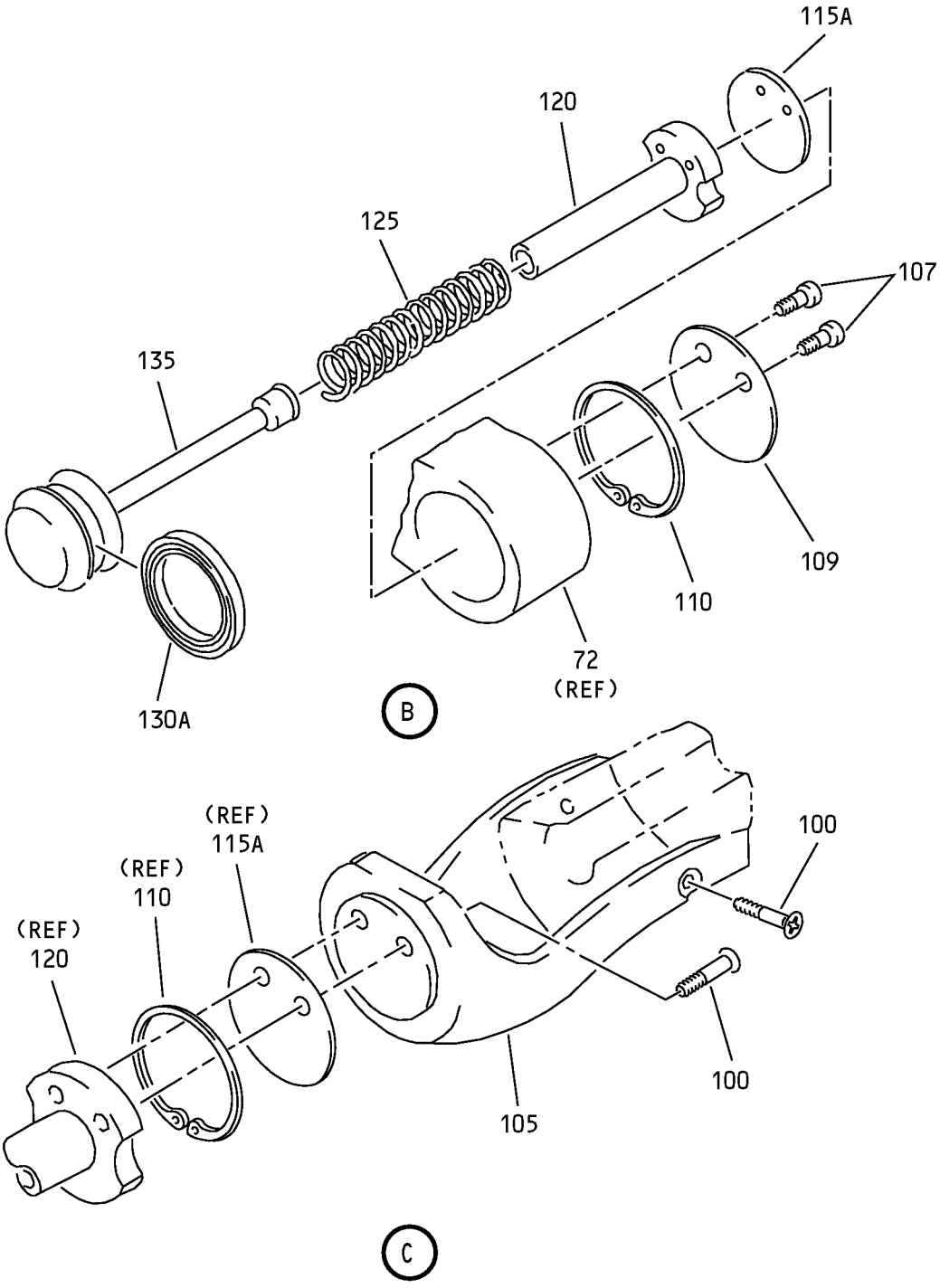
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
7111MR160T		1	130B	1
BACP20AX06A		1	40	2
BACP20AX06AP		1	41	2
BACP20AX21A		1	30	1
BACP20AX21AP		1	31	1
BACR12BM027		1	95	1
BACS12BG04AP4		1	107A	2
BACS12BP04HP5		1	100	4
JHTA1875100D		1	150A	1
JHTA1875110D		1	150	1
JHTA1875130D		1	150B	1
JHTA1875200H		1	35A	1
JHTA1875700D		1	35	1
KSC277705B		1	60	1
KSR167405BK		1	15	1
KWS100014		1	55	2
M14MSR112Z5		1	20	1
M25988-1-025		1	145	1
M25988-1-027		1	90	1
MS16625-4062		1	110	1
NAS1423C5		1	5A	1
NAS513-5		1	10	1
NAS8200L4		1	107	2
S30662-025-5		1	140	1
S34771-112BEA5		1	25	1
		1	85	1
S34780-111BEA99		1	130A	1



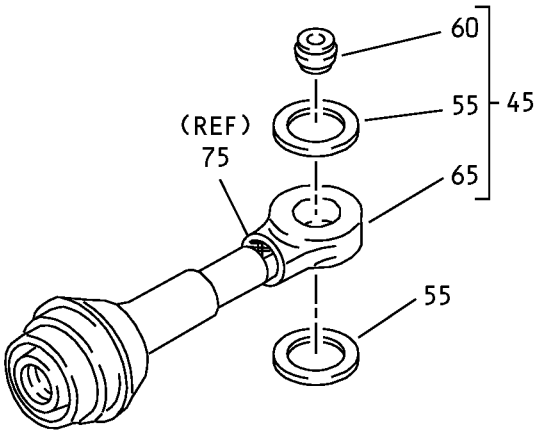
Passenger Door Snubber Assembly
IPL Figure 1 (Sheet 1 of 4)



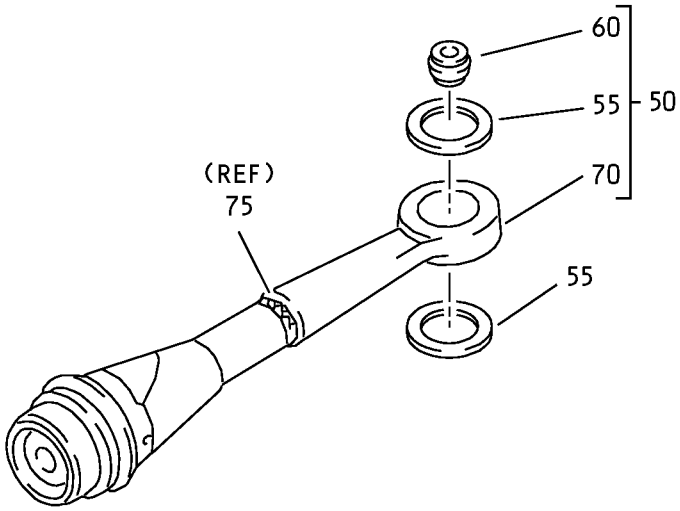
Passenger Door Snubber Assembly
IPL Figure 1 (Sheet 2 of 4)



Passenger Door Snubber Assembly
IPL Figure 1 (Sheet 3 of 4)



D



E

Passenger Door Snubber Assembly
IPL Figure 1 (Sheet 4 of 4)

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–1A	141A6105-1		SNUBBER ASSY-PASS. DOOR	A	RF
–1B	141A6105-2		SNUBBER ASSY-PASS. DOOR	B	RF
–1C	141A6105-3		SNUBBER ASSY-PASS. DOOR	C	RF
–1D	141A6105-6		SNUBBER ASSY-PASS. DOOR	D	RF
–1E	141A6105-7		SNUBBER ASSY-PASS. DOOR	E	RF
–1F	141A6105-8		DELETED		
–1G	141A6105-11		SNUBBER ASSY-PASS. DOOR	G	RF
–1H	141A6105-12		SNUBBER ASSY-PASS. DOOR	F	RF
5	NAS509-5C		DELETED		
5A	NAS1423C5		. NUT-JAM		1
10	NAS513-5		. WASHER		1
15	KSR167405BK		. BEARING-ROD END (V50632)		1
20	M14MSR112Z5		. SCRAPER-U CUP (V97820)		1
25	S34771-112BEA5		. SEAL-WEDGE PAK (V97820)		1
30	BACP20AX21A		. PLUG-PERMANENT (V92555)		1
31	BACP20AX21AP		. PIN-PERMANENT (V92555)		1
35	JHTA1875700D		. RESTRICTOR-JET (V92555)	A-C, G	1
–35A	JHTA1875200H		. RESTRICTOR-JET (V92555)	D-F	1
40	BACP20AX06A		. PLUG-PERMANENT (V92555)		2
41	BACP20AX06AP		. PIN-PERMANENT (V92555)		2
42	141A6105-4		. BODY ASSY	A, B	1
–42A	141A6105-9		. BODY ASSY	D, E	1
43	141A6105-5		. BODY ASSY	C, G	1
–43A	141A6105-10		. BODY ASSY	F	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
45	141A6007-1		. . STEM ASSY	A, B, D, E	1
50	141A6007-2		. . STEM ASSY	C, F, G	1
55	KWS100014		. . . STRIP-WEAR (V50632)		2
60	KSC277705B		. . . BEARING-SPHER (V50632)		1
65	141A6002-1		. . . STEM	A, B, D, E	1
70	141A6002-2		. . . STEM	C, F, G	1
72	141A6001-1		. . BODY	A, B	1
–72A	141A6001-3		. . BODY	D, E	1
73	141A6001-2		. . BODY	C, G	1
–73A	141A6001-4		. . BODY	F	1
75	30546SB10		. STRAP-FILTER (V92555)		1
80	141A6004-1		. SPRING	A, B, D, E	1
–80A	141A6004-3		. SPRING	C, F, G	1
85	S34771-112BEA5		. SEAL-WEDGE PAK (V97820)		1
90	M25988-1-027		. PACKING-SEAL (V97820)		1
95	BACR12BM027		. RING-BACKUP (V97820)		1
100	BACS12BP04HP5		. SCREW	C, F, G	4
105	141A6009-1		. FAIRING	C	1
–105A	141A6009-2		. FAIRING	G	1
–105B	141A6009-3		. FAIRING (OPT ITEM 105C)	F	1
–105C	141A6009-2		. FAIRING (OPT ITEM 105B)	F	1
107	NAS8200L4		. SCREW (OPT ITEM 107A)	A, B, D, E	2
–107A	BACS12BG04AP4		. SCREW (OPT ITEM 107)	A, B, D, E	2

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
109	20050		. PLATE-FILTER (V61898)	A, B, D, E	1
110	MS16625-4062		. RING		1
115	20001-590-5		DELETED		
115A	20058		. FILTER-DISK (V61898)		1
117	20050		DELETED		
120	141A6008-1		. RETAINER-COMPENSATOR		1
125	141A6004-2		. SPRING-COMPENSATOR		1
130	W14MSP014X5		DELETED		
130A	S34780-111BEA99		. SEAL (V09257)	A-C, G	1
–130B	7111MR160T		. SEAL (V26303)	D-F	1
135	141A6005-1		. PISTON-COMPENSATOR	A-C, G	1
–135A	141A6005-2		. PISTON-COMPENSATOR	D-F	1
140	S30662-025-5		. SEAL-CHAN (V97820)		1
145	M25988-1-025		. SEAL-PACKING (V97820)		1
150	JHTA1875110D		. RESTRICTOR-JET (V92555)	B, E	1
–150A	JHTA1875100D		. RESTRICTOR-JET (V92555)	C, F, G	1
–150B	JHTA1875130D		. RESTRICTOR-JET (V92555)	A, D	1
155	141A6003-1		. PLUNGER		1
160	141A6001-1		DELETED		
165	141A6001-2		DELETED		
170	20237		. MARKER (V61898)		1

–Item not Illustrated